Attorney's Docket No.: 08688-048002 / (UML 01-17) (DIV)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Kethinni G. Chittibabu et al.

: PHOTOVOLTAIC CELL

Art Unit : Unknown Examiner : Unknown

Serial No.: Not yet assigned Filed: April 21, 2004

Title

: April 21, 2004

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

## INFORMATION DISCLOSURE STATEMENT

Applicant submits the references listed on the attached form PTO-1449.

This application relies on the earlier filing date of U.S. application serial number 10/165,877, filed on June 10, 2002, which claims priority to U.S. provisional application serial number 60/298,858, filed on June 15, 2001. The references listed on the following 1449 forms were submitted to and/or cited by the Office in the prior non-provisional application and, therefore, are not provided in this application.

This statement is being filed with the application. Accordingly, only copies of foreign patent documents and non-patent literature are enclosed. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: APRIL 21, 2004	The Nguye
•	Tu N. Nguyen
	Reg. No. 42,934

Fish & Richardson P.C. 225 Franklin Street Boston, MA 02110-2804 Telephone: (617) 542-5070

Facsimile: (617) 542-8906

20835898.doc

CERTIFICATE OF MAILING BY EXPRESS MAIL

Express Mail Label No	EL964752413US	

Date of Deposit

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Allotties a pocket tree	Application No.
Information Discle		Applicant Kethinni G. Chittibabu et	
(Use several sheets if necessary)		Filing Date April 21, 2004	Group Art Unit
(37 CFR §1.98(b))		71pm 21, 200	

U.S. Patent Documents Filing Date							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	If Appropriate
- Interes	AA	4,232,108	11/04/80	Dessauer	ļ		
	AB	4,295,329	10/20/81	Windley			
	AC	4,927,721	05/22/90	Gratzel et al.			
	AD	5,728,487	03/17/98	Gratzel et al.			
	AE	5,830,597	11/3/1997	Hoffmann et al.	<u> </u>		-
	AF	6,075,203	06/13/00	Wang et al.			
	AG	6,291,763 B1	9/18/2001	Nakamura			
	AH	6,444,189	09/03/02	Wang et al.			
	AI	2002/0042343	04/11/02	Akui et al.		<u> </u>	
	AJ	2003/0140959	7/2003	Gaudiana et al.			
	AK	2003/0188777	10/2003	Gaudiana et al.			
<u>.</u>	AL	2003/0189402	10/2003	Gaudiana et al.			
	AM	2003/0192584	10/2003	Beckenbaugh et al.			
	AN	2003/0192585	10/2003	Beckenbaugh et al.			
	AO	2003/0230337	12/2003	Gaudiana et al.			
	AP	2003/0025933	2/2004	Chittibabu et al.			
	AQ	2004/0025934	2/2004	Chittibabu et al.			
	AR	2004/0031520	2/2004	Ryan			

	Foreign Patent Documents or Published Foreign Patent Applications  Translation							
Examiner Initial	Desig.	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Trans Yes	lation No
	AS	JP 7-116503	5/9/1995	Japan	<u> </u>			
	AT	EP 993050	4/12/2000	EPO				

	Other D	ocuments (include Author, Title, Date, and Place of Publication)
Examiner Initial	Desig. ID	Document  Cao et al, "A Solid State, Dye Sensitized Photoelectrochemical Cell," J. Phys. Chem., vol. 99, pages
	AU	Cao et al, "A Solid State, Dye Sensitized Photoelectrochemical Cen, J. Thys. Status, very 1 5 17071-17073, (1995).

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Dr	ne through citation if not in conformance and not considered. Include copy of this form with
next communication to applicant.	Substitute Disclosure Form (PTO-1449

Information Disclosure Statement by Applicant (Use several sheets if necessary)  Applicant Kethinni G. Chittibabu et al. Filing Date  Group Art Unit	Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 08688-048002	Application No.
(37 CFR §1.98(b))	Information Disclosure Statement by Applicant		Kethinni G. Chittibabu e	t al.  Group Art Unit

(	Other Do	cuments (include Author, Title, Date, and Place of Publication)
xaminer	Desig.	Desument
Initial	ID	Bach et al., "Solid-state dye-sensitized mesoporous TiO <sub>2</sub> solar cells with high photon-to-electron
	AV	Bach et al., "Solid-state dye-sensitized mesoporeds 1722 conversion efficiencies", <i>Nature</i> , Volume 395, pp. 583-585, October 1998.
	111	Carotta et al., "Preparation and Characterization of Nanostructured Titania Thick Films", Advanced
	AW	Carotta et al., "Preparation and Characterization of the Characterization and Characterizatio
	11,	Materials., Volume 11, No. 11, pp. 943-946, 1999.  Gomez et al., "Nanocrystalline Ti-oxide-based solar cells made by sputter deposition and dye Glassian Color of the specific Solar Energy Materials & Solar Cells, Volume 62,
		Gomez et al., "Nanocrystalline Ti-oxide-based solar cens made by sputter deposition of the sensitization: Efficiency versus film thickness", Solar Energy Materials & Solar Cells, Volume 62, sensitization:
	AX	
	<del>                                     </del>	The standard overview" Energy Policy, Volume 20, pp. 303-350, 2000.
	AY	Green, M.A., "Photovoltaics: technology overview", Elicity of Greeg, Brian A., "Bilayer molecular solar cells on spin-coated TiO <sub>2</sub> substrates", Chemical Physics
	1 7	Gregg, Brian A., "Bilayer molecular solar cells on spin-coated 1107 substates",
	AZ	Letters, Volume 258, pp. 376-380, 1996.
		Letters, Volume 258, pp. 376-380, 1996.  Hagfeldt et al., "Molecular Photovoltaics", Accounts of Chemical Research, Volume 33, pp. 269-
	AAA	277, 2000.  Li et al., "Titanium dioxide films for photovoltaic cells derived from a sol-gel process", Solar
	ABB	Li et al., "Titanium dioxide films for photovoltaic cens derived from 167-174 1999.
	ADD	Energy Materials and Solar Cells, Volume 56, pp. 167-174, 1999.  Mikoshiba et al., "Highly efficient photoelectrochemical cell with novel polymer gel electrolytes",
	ACC	Mikoshiba et al., "Highly efficient photoelectrochemical continual and a second continual a
	Acc	Conference Organizers, 3 pages.  Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells. Electron Transfer between Iodide Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells. Electron Transfer between Iodide Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells. Electron Transfer between Iodide Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells. Electron Transfer between Iodide Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells."  Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells."  Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells."  Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells."  Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells."  Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells."  Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells."  Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells."  Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells."  Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells."  Nasr et al., "Role of Iodide in Photoelectrochemical Solar Cells."
		Nasr et al., "Role of Iodide in Photoelectrochemical Solal Cens." Interior Valuation of Solar Cens. Interior
	ADD	Phys. Chem. B, Volume 102, pp. 4944-4951, 1998.
		Phys. Chem. B, Volume 102, pp. 4944-4951, 1998.  O'Regan et al., "A low-cost, high-efficiency solar cell based on dye-sensitized colloidal TiO <sub>2</sub> films",
	AEE	Nature, Volume 353, pp. 737-740, October 1991.
		Nature, Volume 353, pp. 737-740, October 1991.  Park et al., "Comparison of Dye-Sensitized Rutile- and Anatase-Based TiO <sub>2</sub> Solar Cells", J. Phys.
•	AFF	Chem. B, Volume 104, pp. 8989-8994, 2000.
		Chem. B, Volume 104, pp. 8989-8994, 2000.  Petritsch et al., "Dye-based donor/acceptor solar cells", Solar Energy Materials & Solar Cells,
	AGG	Volume 61, pp. 63-72, 2000.
		Volume 61, pp. 63-72, 2000.  Phani et al., "Titania solar cells: new photovoltaic technology", <i>Renewable Energy</i> , Volume 22, pp.
	AHH	303-309, 2001.
		Dishet et al. "Low-Temperature Sintering of 1102 Colloids: Application to Temperature
	AII	Solar Cells", Langmuir, Volume 16, pp. 5626-5630, 2000.
		Pichot et al., "The Photovoltage-Determining Mechanism in Dye School
	AJJ	Chem. B, Volume 104, pp. 6-10, 2000.  Ruile et al., "Novel sensitisers for photovoltaic cells. Structural variations of Ru (II) complexes  Novel sensitisers for photovoltaic cells. Structural variations of Ru (II) complexes  Ruile et al., "Novel sensitisers for photovoltaic cells. Structural variations of Ru (II) complexes
	AKK	containing 2,6-bis (1-methylbenzimidazoi-2-yi) pyridine, inorganization
		pp. 129-140, 1997.  Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Nanoporous Dye-Sensitized Schawarzburg et al., "Origin of
	ALL	Schawarzburg et al., "Origin of Photovoltage and Photocurrent in the Photovoltage and Photovoltage and Photocurrent in the Photovoltage and Photovoltage and Photocurrent in the Photovoltage and Phot
	ALL	Electrochemical Solar Cell", J. Phys. Chem B., Volume 103, Named 25, Pp.  Smestad, Greg P., "Education and solar conversion: Demonstrating electron transfer", Solar Energy  Smestad, Greg P., "Education and solar conversion: Demonstrating electron transfer", Solar Energy  157, 178, 1998
	AMM	Smestad, Greg P., "Education and solar conversion. Definition and Solar Conversion.
	Aiviiv	Smestad, Greg 1., Education Materials and Solar Cells, Volume 55, pp. 157-178, 1998.  Sommeling et al., "Flexible Dye-Sensitized Nanocrystalline TiO <sub>2</sub> Solar Cells", Conference
	ANN	Sommeling et al., Flexible Dye-Schsiched Transcription
		Organizets, 5 pages.
	AOC	Trupke et al., "Dependence of the Photocurrent Convention In Product Convention In Con

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if no	tin conformance and not considered. Include copy of this form with
next communication to applicant.	Substitute Disclosure Form (PTO-1449)